

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-062889

(43)Date of publication of application : 29.02.2000

(51)Int.Cl.

B65D 85/86

(21)Application number : 10-228360

(71)Applicant : NEC YAMAGATA LTD

(22)Date of filing : 12.08.1998

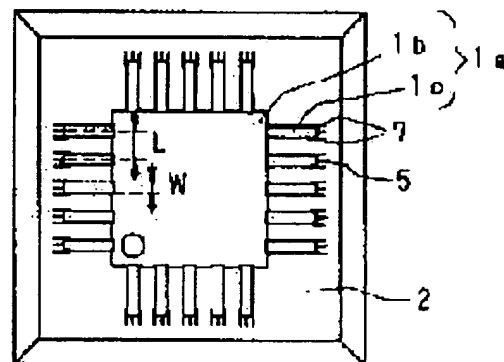
(72)Inventor : SUGAWARA KAZUE

(54) SMALL-SIZED ELECTRONIC PART STORING TRAY WITH INSPECTION SCALE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a small-sized electronic parts storing tray in which a visual high precision and fast judgement over an inferior section caused by deformation or loss of external terminals of the small-sized electronic parts can be performed and then both productivity and reliability of the small-sized electronic parts can be improved.

SOLUTION: One surface of a plate-like tray main body is formed with a concave-shaped pocket (electronic parts storing section) 2. Within the pocket 2 are arranged some ribs for use in fixing a main body 1b of a small-sized electronic parts 1a at a specified position in the pocket 2. Some inspection scales 5 for use in inspecting deformation and/or loss of the external terminals 1c of the small-sized electronic parts 1a fixed to the ribs are formed by a predetermined interval at the bottom surface of the pocket 2 and also at an outer circumference of each of the ribs. In addition, some sub-inspection scales 7 indicating an allowable range of the deformation and/or loss of the external terminals 1c are formed at a predetermined interval.



LEGAL STATUS

[Date of request for examination] 12.08.1998

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 2926587

[Date of registration] 14.05.1999

[Number of appeal against examiner's decision of

rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

14.05.2004

Copyright (C); 1998,2003 Japan Patent Office

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The tray for small-with checking graduation electronic-parts receipt characterized by to be the tray for small electronic-parts receipt which contains and carries the small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts, and this body, and for a concave electronic-parts stowage to be formed in the whole surface of the tabular body of a tray, and to be formed in this electronic-parts stowage the checking graduation for inspect the deformation and/or the deficit of an external terminal of small electronic parts contained by this at intervals of predetermined.

[Claim 2] The small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts and this body are contained. Are a tray for small electronic-parts receipt for carrying, and a concave electronic-parts stowage is formed in the whole surface of the tabular body of a tray. The tray for small-with checking graduation electronic-parts receipt characterized by forming in this electronic-parts stowage the sub checking graduation which shows deformation of the external terminal of the small electronic parts contained by this, and/or the tolerance of a deficit at intervals of predetermined.

[Claim 3] The small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts and this body are contained. Are a tray for small electronic-parts receipt for carrying, and a concave electronic-parts stowage is formed in the whole surface of the tabular body of a tray. The rib for fixing said body of small electronic parts to the fixed location in this electronic-parts stowage is prepared in said electronic-parts stowage. On the base of this electronic-parts stowage And while the checking graduation for inspecting the deformation and/or the deficit of an external terminal of small electronic parts which were fixed to this rib is formed in the periphery of a rib at intervals of predetermined The tray for small-with checking graduation electronic-parts receipt characterized by forming the sub checking graduation which shows deformation of said external terminal and/or the tolerance of a deficit at intervals of predetermined.

[Translation done.]

*** NOTICES ***

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the tray for small electronic-parts receipt for carrying the small electronic parts which consist of a body of small electronic parts, and an external terminal in the condition of having contained temporarily. In detail When the sub checking graduation which shows deformation of the checking graduation for inspecting the deformation and/or the deficit of an external terminal of small electronic parts which were contained by this, or the above-mentioned external terminal, and/or the tolerance of a deficit forms in the electronic-parts stowage formed in the tabular body of a tray at intervals of predetermined It is related with the tray for small-with checking graduation electronic-parts receipt which made it possible to judge with high precision and promptly the defect by the deformation and the deficit of an external terminal of small electronic parts by viewing.

[0002]

[Description of the Prior Art] As a conventional tray for small electronic-parts receipt, the thing as shown in drawing 8 is known. In order that the conventional tray 20 for small electronic-parts receipt may contain small electronic-parts 1a efficiently on the top face 4 of the tabular body 21 of a tray, the pocket 2 as an electronic-parts stowage is formed regularly. While electrical installation of the above-mentioned small electronic-parts 1a is carried out to IC of body of small electronic parts 1b, and this body 1b etc., the outline configuration of it is carried out from external terminal 1c drawn outside.

[0003] Moreover, as shown in the body 21 of a tray at drawing 9 (A) and drawing 9 (B) So that it may be fixed to the fixed location in a pocket 2 and small electronic-parts 1a may be contained The rib 3 for location immobilization is formed according to the configuration of the underside of small electronic-parts 1a, and when the underside of body of small electronic parts 1b is contained by this rib 3, external terminal 1c and body of small electronic parts 1b which are easy to deform according to external force are protected. Furthermore, this tray 20 for small electronic-parts receipt has the structure where the vertical side of a body 21 gears, when it puts, and it is possible to pile up a tray, where small electronic parts are contained. And electronic-parts 1a is protected from external force by performing conveyance in a production process, and shipment to a customer, where small electronic-parts 1a is contained on this tray 20.

[0004] On the other hand, although small electronic-parts 1a is manufactured through various production processes, external terminal 1c may be weak to external force, and may deform into it. For this reason, it is shipping, after inspecting deformation of external terminal 1c by viewing in the condition of having contained on the tray (organoleptic test) and removing a defective before shipment.

[0005]

[Problem(s) to be Solved by the Invention] by the way, the production process of small electronic-parts 1a -- setting -- external terminal 1c -- being related -- mainly -- ** of the following, and ** -- a defect [like] may occur

** . In the production process of deficit small electronic-parts 1a of external terminal 1c of deformation

** . small electronic-parts 1a of external terminal 1c of small electronic-parts 1a Although right [of

external terminal 1c / exterior / poor] was inspected by viewing where small electronic-parts 1a is contained on a tray 20 and a defect's thing has been removed before shipping small electronic-parts 1a since the above defects occur When the conventional tray 20 for small electronic-parts receipt was used, the following problems often occurred.

[0006] Although the defect is detected by seeing spacing of external terminal 1c which small electronic-parts 1a adjoins about the defect item that deformation of external terminal 1c of above-mentioned ** arises In order for the width of face and spacing of an external terminal to have to become small and to have to judge that even slight deformation is poor with the miniaturization of small electronic parts in recent years, an incorrect judging may occur only by checking spacing of external terminals by viewing. The reason is because it is inspecting on the ambiguous criteria of comparing spacing of adjacent external terminal 1c, when small electronic-parts 1a is contained on the conventional tray 20 for small electronic-parts receipt. Moreover, about a product with a difficult quality judging, in order to have to measure and judge the variation of small electronic-parts 1a ejection and external terminal 1c from a tray 20, there is a problem that the manday of detection of deformation of external terminal 1c will start.

[0007] Moreover, about the defect item that the deficit of external terminal 1c of above-mentioned ** arises, it is comparing visually spacing of external terminal 1c which small electronic-parts 1a's adjoins, and when the existence of the deficit of external terminal 1b of small electronic-parts 1a is checked and there is a deficit, the small electronic-parts 1a is removed. Therefore, although it was possible to have detected a defective with a sufficient precision, when one external terminal 1c of the outermost edge of one side with small electronic-parts 1a was thoroughly missing, it was dramatically difficult [it] in the case of one in external terminal 1c which continued when external terminal 1c suffered a loss continuously having suffered a loss etc., to discover. Since external terminal 1c arranged at the outermost edge of each side since the reason judges the deficit of external terminal 1c by checking spacing of external terminal 1c of small electronic-parts 1a by viewing does not have the external terminal to compare, it is for becoming easy to overlook the deficit of a terminal.

[0008] This invention was made in view of the above-mentioned situation, makes it possible to judge with high precision and promptly the defect by the deformation and the deficit of an external terminal of small electronic parts by viewing, and is to offer the tray for small electronic-parts receipt which can improve the productivity and dependability of small electronic parts.

[0009]

[Means for Solving the Problem] Invention according to claim 1 contains the small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts, and this body. Are the tray for small electronic-parts receipt to carry, and a concave electronic-parts stowage is formed in the whole surface of the tabular body of a tray. The tray for small-with checking graduation electronic-parts receipt characterized by forming in this electronic-parts stowage the checking graduation for inspecting the deformation and/or the deficit of an external terminal of small electronic parts which were contained by this at intervals of predetermined was made into the solution means of the above-mentioned technical problem.

[0010] Moreover, invention according to claim 2 contains the small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts, and this body. Are a tray for small electronic-parts receipt for carrying, and a concave electronic-parts stowage is formed in the whole surface of the tabular body of a tray. The tray for small-with checking graduation electronic-parts receipt characterized by forming in this electronic-parts stowage the sub checking graduation which shows deformation of the external terminal of the small electronic parts contained by this and/or the tolerance of a deficit at intervals of predetermined was made into the solution means of the above-mentioned technical problem.

[0011] Moreover, invention according to claim 3 contains the small electronic parts which consist of an external terminal electrically connected to the body of small electronic parts, and this body. Are a tray for small electronic-parts receipt for carrying, and a concave electronic-parts stowage is formed in the whole surface of the tabular body of a tray. The rib for fixing said body of small electronic parts to the fixed location in this electronic-parts stowage is prepared in said electronic-parts stowage. On the base

of this electronic-parts stowage And while the checking graduation for inspecting the deformation and/or the deficit of an external terminal of small electronic parts which were fixed to this rib is formed in the periphery of a rib at intervals of predetermined The tray for small-with checking graduation electronic-parts receipt characterized by forming the sub checking graduation which shows deformation of said external terminal and/or the tolerance of a deficit at intervals of predetermined was made into the solution means of the above-mentioned technical problem.

[0012]

[Embodiment of the Invention] Hereafter, the operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention is explained to a detail with reference to a drawing. Drawing 1 is the perspective view showing the first operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention. Drawing 2 (A) is the amplification top view showing the physical relationship of the small electronic parts contained in the pocket (electronic-parts stowage) of the tray for small-with checking graduation electronic-parts receipt of drawing 1, and this pocket, and drawing 2 (B) is the I-I line sectional view of drawing 2 (A). The tray 30 for small-with checking graduation electronic-parts receipt of the first operation gestalt is for containing temporarily small electronic-parts 1a which consists of external terminal 1c electrically connected to body of small electronic parts 1b, and this body 1b, and carrying it. Moreover, it enables it to inspect defects, such as deformation of external terminal 1c of the small electronic parts 1a, and a deficit.

[0013] As for the tray 30 for small-with checking graduation electronic-parts receipt of the first operation gestalt, the pocket 2 as a concave electronic-parts stowage is formed in the whole surface of the tabular body 21 of a tray. In this pocket 2, the rib 3 for fixing body of small electronic parts 1b to the fixed location in this pocket 2 is formed according to the configuration of the underside of body of small electronic parts 1b. Body of electronic parts 1b is fixed to the fixed location in a pocket 2 when contained by the rib 3. By this, each external terminal 1c of small electronic-parts 1a will also be fixed to a fixed location to a pocket 2.

[0014] Moreover, it is the base of a pocket 2 and the checking graduation 5 for inspecting defects, such as deformation of external terminal 1c of small electronic-parts 1a fixed to the rib 3 and/or a deficit, is formed in the periphery of a rib 3. The direction where the checking graduation 5 is prolonged is the same direction as the direction where external terminal 1c when this small electronic-parts 1a is contained in a pocket 2 on the basis of good small electronic-parts 1a which does not have defects, such as deformation and a deficit, in external terminal 1c is prolonged. Moreover, spacing of such a checking graduation 5 is formed in external terminal 1c according to spacing of each external terminal 1c of good small electronic-parts 1a without defects, such as deformation and a deficit. Therefore, when the underside of body of small electronic parts 1b of small electronic-parts 1a is contained by the rib 3 in a pocket 2, external terminal 1c of small electronic-parts 1a will be installed in the location of the fixed range to the checking graduation 5 in a pocket 2.

[0015] When the checking graduation 5 in the pocket 2 in this first operation gestalt is explained more concretely, this checking graduation 5 As shown in drawing 2 (A) or drawing 3, it is prepared each side of body of small electronic parts 1b. Moreover, it doubles with the spacing L of the external terminals 1c and 1c with which good small electronic-parts 1a adjoins each other. It is located at the core, one half of the locations, i.e., good external terminal 1c, of the external terminal width of face W, and is formed along the die-length direction of good external terminal 1c (formed also on the external terminal 1c bottom and the extension wire at the head of external terminal 1c). When there is neither deformation nor a deficit in external terminal 1c of small electronic-parts 1a for this reason As shown in drawing 2 (A), the checking graduation 5 in a pocket 2 and external terminal 1c Physical relationship will always be in a fixed condition, namely, while the checking graduation 5 is in the condition of being located at the core of each external terminal 1c and external terminal 1c laps with a part of checking graduation 5, it always remains on the extension wire of external terminal 1c, and the checking graduation 5 can be checked by looking. On the other hand, when a defect is in the external terminal of small electronic-parts 1a For example, since the exposed part of external terminal 1e which 1d of external terminals which deformed as shown in drawing 3 has shifted from the location of the checking graduation 5, and

the deficit produced is more than the external terminal 1c part without the deficit of five checking graduation Since 1d of external terminals which deformed, and external terminal (external terminal which deficit produced) 1e which suffered a loss can be checked easily, compared with the former, a decision criterion becomes clear, and the detection precision of the defective which has deformation, a deficit, etc. in an external terminal improves.

[0016] According to the tray 30 for small-with checking graduation electronic-parts receipt of the first operation gestalt When the checking graduation 5 used as the criteria formed according to the external terminal of the good small electronic parts which have neither deformation nor a defect in an external terminal prepared in the pocket 2 Since viewing shows [whether external terminal 1c is arranged in which location to body of electronic parts 1b of small electronic-parts 1a contained in this tray 30, and] clearly Where small electronic-parts 1a is contained in the pocket 2 of a tray 30, in case defects, such as deformation of external terminal 1c and a deficit, are detected An operator compares the checking graduation 5 corresponding to external terminal 1c of small electronic-parts 1a and this which were contained in the pocket 2. When external terminal 1c has shifted from the checking graduation 5 or there is a part which the checking graduation 5 can check by looking, it turns out that deformation and a deficit have arisen in external terminal 1c, and, therefore, the defect of external terminal 1c can be visually detected with an easily and sufficient precision. Moreover, since the checking graduation 5 is formed also to external terminal 1c of the outermost edge of one side with small electronic-parts 1a, even if external terminal 1c of the outermost edge is thoroughly missing, a defect is visually detectable with an easily and sufficient precision. therefore , by having consider as the above configurations , by seeing spacing of ***** external terminals , compared with the case where the conventional tray which detect a defect be use , a decision criterion become clear , and , according to the tray 30 of the first operation gestalt for a small - with checking graduation electronic parts receipt , the detection precision of the defective which deformation , a deficit , etc. produced for the external terminal improve .

[0017] Next, the second operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention is explained. Drawing 4 is the amplification top view showing the physical relationship of small electronic-parts 1a contained in the pocket (electronic-parts stowage) 2 of the tray for small-with checking graduation electronic-parts receipt of the second operation gestalt, and this pocket 2. The place where the tray for small-with checking graduation electronic-parts receipt of the second operation gestalt differ from the tray for small-with checking graduation electronic-parts receipt of the first operation gestalt be the point that the sub checking graduation 7 which show deformation of external terminal 1c of small electronic-parts 1a fixed to the rib 3 and/or the tolerance of a deficit be form in the both sides of the checking graduation 5 , respectively . The sub checking graduation 7 is the base of a pocket 2, and is formed in the periphery of a rib 3 at intervals of predetermined. The direction where this sub checking graduation 7 is prolonged is a direction parallel to the checking graduation 5 formed in the same direction as the direction where external terminal 1c when good small electronic-parts 1a which does not have defects, such as deformation and a deficit, in external terminal 1c is contained in a pocket 2 is prolonged.

[0018] On the above trays for small-with checking graduation electronic-parts receipt of the second operation gestalt, when the deformation produced in external terminal 1c of small electronic-parts 1a contained in the pocket 2 occurs in tolerance, as shown in drawing 4 or drawing 5 , external terminal 1c is in the condition of being located among the sub checking graduations 7 and 7 formed in the both sides of the checking graduation 5 corresponding to this. Since 1d of external terminals which the deformation outside tolerance produced is protruded from between the sub checking graduation 7 and 7 as it is shown in drawing 5 on the other hand when the defect who arose for the external terminal of small electronic-parts 1a is outside tolerance for example, and 1d of external terminals which deformed can be checked easily, detection precision improves rather than the first operation gestalt. In addition, Sign S shows the tolerance of deformation of an external terminal among drawing 5 . About detection of external terminal 1e which suffered a loss, it can carry out easily like the 1st operation gestalt.

[0019] If it is in the tray for small-with checking graduation electronic-parts receipt of the second operation gestalt Since the sub checking graduation 7 which shows deformation of external terminal 1c

and/or the tolerance of a deficit especially is formed in the both sides of the checking graduation 5. Where the tolerance at the time of external terminal 1b deforming was found clearly and small electronic-parts 1a is contained in a pocket 2, in case deformation of external terminal 1c is detected. An operator compares the sub checking graduations 7 and 7 of the both sides of the checking graduation 5 corresponding to external terminal 1c of small electronic-parts 1a and this which were contained in the pocket 2. Since deformation of external terminal 1c can be detected easily and it can detect easily like the first operation gestalt about the deficit of external terminal 1c when external terminal 1c checks the existence of the flash from between the sub checking graduation 7 and 7. The detection precision of the defective which deformation, a deficit, etc. produced for the external terminal improves more.

[0020] Next, the third operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention is explained. Drawing 6 is the amplification top view showing the physical relationship of small electronic-parts 1a contained in the pocket (electronic-parts stowage) 2 of the tray for small-with checking graduation electronic-parts receipt of the third operation gestalt, and this pocket 2. The place where the tray for small-with checking graduation electronic-parts receipt of the third operation gestalt differs from the tray for small-with checking graduation electronic-parts receipt of the second operation gestalt is the point that the formation location and the extending direction of the sub checking graduations 7 and 7 formed in the checking graduation 5 and the both sides of this differ from each other. The checking graduation 5 in the third operation gestalt is the location to which the head of external terminal 1c when this small electronic-parts 1a is contained in a pocket 2 on the basis of good small electronic-parts 1a which does not have defects, such as deformation and a deficit, in external terminal 1c comes, and is formed in the direction which intersects perpendicularly in the die-length direction of this external terminal 1c. Therefore, when the underside of body of small electronic parts 1b of small electronic-parts 1a is contained by the rib 3 in a pocket 2, external terminal 1c of small electronic-parts 1a will be installed in the location of the fixed range to the checking graduation 5 in a pocket 2.

[0021] The checking sub graduations 7 in the third operation gestalt are the both sides of the above checking graduations 5, and are formed in the direction parallel to this checking graduation 5. When there is neither deformation nor a deficit in external terminal 1c of small electronic-parts 1a for this reason, as shown in drawing 6 and drawing 7, the checking graduation 5 in a pocket 2 and external terminal 1c will always be in the condition that physical relationship is fixed, namely, the checking graduation 5 is always in the condition of being located at the head of each external terminal 1c. On the other hand, when a defect is in the external terminal of small electronic-parts 1a. For example, 1f of external terminals which deformation of the die-length direction of an external terminal produced as shown in drawing 7 has separated from between the sub checking graduation 7 and 7. Moreover, since the exposed part of 1f of external terminals which the deficit produced is more than the external terminal 1c part without the deficit of the sub checking graduation 7 and/or five checking graduation. Since 1f (external terminal which the deficit produced) of missing external terminals [deformation and] can be checked easily, compared with the former, a decision criterion becomes clear, and the detection precision of the defective which has deformation, a deficit, etc. in an external terminal improves. Sign T shows the tolerance of deformation of the die-length direction of an external terminal among drawing 7.

[0022] According to the tray for small-with checking graduation electronic-parts receipt of the third operation gestalt. When the checking graduation 5 used as the criteria formed according to the external terminal of the good small electronic parts which have neither deformation nor a defect in an external terminal, and the sub checking graduation 7 of the both sides of this prepared in the pocket 2. Since viewing shows [whether external terminal 1c is arranged in which location to body of electronic parts 1b of small electronic-parts 1a contained in this tray 30, and] clearly. Where small electronic-parts 1a is contained in the pocket 2 of a tray 30, in case deformation of the die-length direction of external terminal 1c and defects, such as a deficit, are detected. An operator compares the sub checking graduations 7 and 7 of the both sides of the checking graduation 5 corresponding to external terminal 1c of small electronic-parts 1a and this which were contained in the pocket 2. When external terminal 1c

has shifted from between the sub checking graduation 7 and 7 or there is a part which the checking graduation 5 and the sub checking graduation 7 can check by looking It turns out deformation of the die-length direction and that the deficit has arisen at external terminal 1c, and, therefore, the defect of external terminal 1c can be visually detected with an easily and sufficient precision. therefore , a decision criterion become clear compared with the case where the conventional tray which detect a defect be use , and , according to the tray of the third operation gestalt for a small - with checking graduation electronic parts receipt , the detection precision of the defective which the die length direction deformation , a deficit , etc. produced for the external terminal improve by seeing spacing of ***** external terminals by having consider as the above configurations .

[0023]

[Effect of the Invention] As explained above, according to the tray for small-with checking graduation electronic-parts receipt of this invention A concave electronic-parts stowage is formed in the whole surface of the body of a tray. By having formed in this electronic-parts stowage the sub checking graduation which shows deformation of the checking graduation for inspecting the deformation and/or the deficit of an external terminal of small electronic parts which were contained by this, and/or the above-mentioned external terminal, and/or the tolerance of a deficit at intervals of predetermined Since the criteria for judging defects, such as a deformation condition of an external terminal and a deficit of an external terminal, become clear, inspection precision improves in the visual inspection about deformation of the external terminal which performs small electronic parts in the condition of having contained on the tray. moreover , since the checking graduation and/or sub checking graduation used as the criteria for judge the defect of an external terminal be formed in the electronic parts stowage according to the tray for a small - with checking graduation electronic parts receipt of this invention and the activity currently did conventionally of pick out the indefinite product of a quality judging from the body of a tray , and measure the variation of an external terminal with a measuring instrument become unnecessary , the inspection manday of the external terminal of small electronic parts can be reduce . Therefore, according to the tray for small-with checking graduation electronic-parts receipt of this invention, it makes it possible to judge with high precision and promptly the defect by the deformation and the deficit of an external terminal of small electronic parts by viewing, and the productivity and dependability of small electronic parts can be improved.

[Translation done.]

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the perspective view showing the first operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention.

[Drawing 2] (A) is the amplification top view showing the physical relationship of the small electronic parts contained in the pocket (electronic-parts stowage) of the tray for small-with checking graduation electronic-parts receipt of drawing 1 , and this pocket, and (B) is the I-I line sectional view of (A).

[Drawing 3] It is the enlarged drawing showing the external terminal for explaining the operation effectiveness of the tray for small-with checking graduation electronic-parts receipt of the first operation gestalt of drawing 1 , and the physical relationship of a checking graduation.

[Drawing 4] It is the amplification top view showing the physical relationship of the small electronic parts contained in the pocket (electronic-parts stowage) of the second operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention, and this pocket.

[Drawing 5] It is the enlarged drawing showing the external terminal for explaining the operation effectiveness of the tray for small-with checking graduation electronic-parts receipt of the second operation gestalt, and the physical relationship of a checking graduation.

[Drawing 6] It is the amplification top view showing the physical relationship of the small electronic parts contained in the pocket (electronic-parts stowage) of the third operation gestalt of the tray for small-with checking graduation electronic-parts receipt of this invention, and this pocket.

[Drawing 7] It is the enlarged drawing showing the external terminal for explaining the operation effectiveness of the tray for small-with checking graduation electronic-parts receipt of the third operation gestalt, and the physical relationship of a checking graduation.

[Drawing 8] It is the perspective view showing the conventional tray for small electronic-parts receipt.

[Drawing 9] (A) is the amplification top view showing the physical relationship of the small electronic parts contained in the pocket of the conventional tray for small electronic-parts receipt, and this pocket, and (B) is the II-II line sectional view of (A).

[Description of Notations]

1a [... A pocket (electronic-parts stowage), 3 / ... A rib, 4 / ... A top face, 5 / ... A checking graduation, 7 / ... A sub checking graduation, 30 / ... Tray for small-with checking graduation electronic-parts receipt.] ... Small electronic parts, 1b ... The body of small electronic parts, 1c ... An external terminal, 2

[Translation done.]

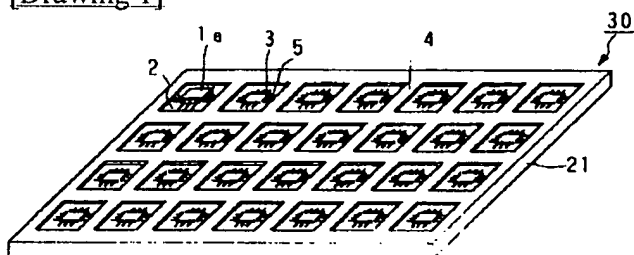
* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

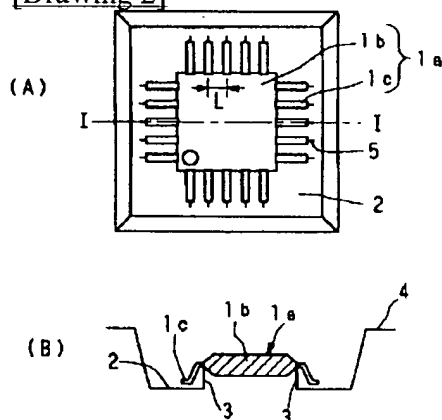
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

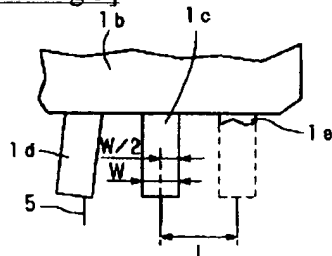
[Drawing 1]



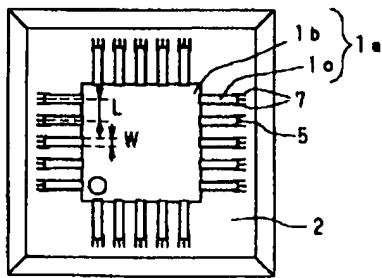
[Drawing 2]



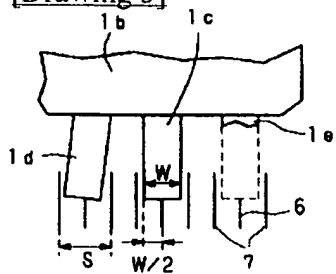
[Drawing 3]



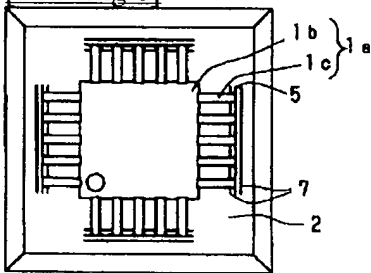
[Drawing 4]



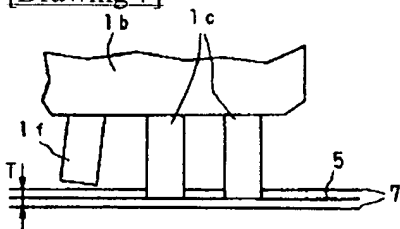
[Drawing 5]



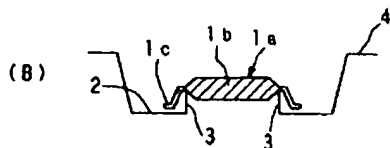
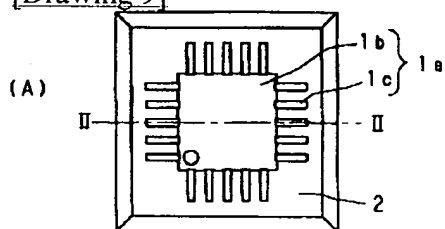
[Drawing 6]



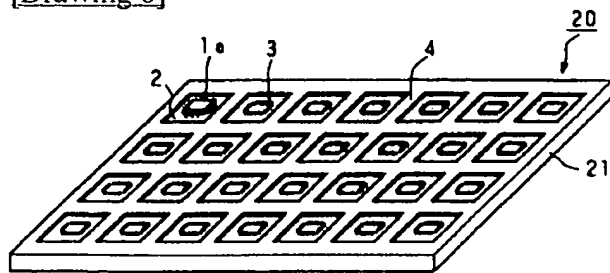
[Drawing 7]



[Drawing 9]



[Drawing 8]



[Translation done.]